

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

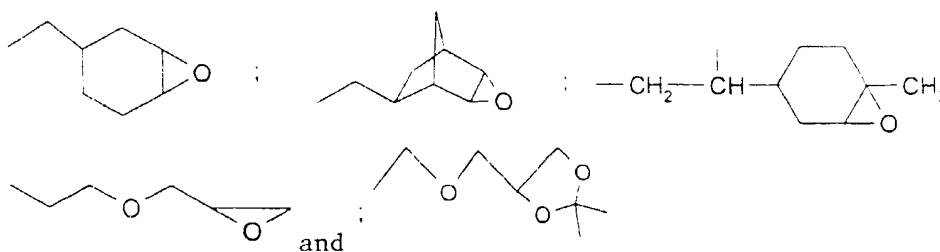
Listing of Claims:

1-21 (Canceled)

22. (Currently amended) The low shrinking polymerizable or crosslinkable dental composition as claimed in claim 25 ~~20~~, wherein Z is an organic substituent Z1 comprising at least one reactive epoxy, or dioxolane functional group, ~~and at least one reactive epoxy functional group.~~

23. (Canceled)

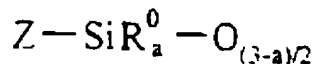
24. (Currently amended) The low shrinking polymerizable or crosslinkable dental composition as claimed in claim 22 ~~20~~, wherein the reactive functional group(s) of Z1 is selected from the group consisting of:



25. (Currently amended) ~~The~~ A low shrinking polymerizable or crosslinkable dental composition ~~as claimed in claim 20, comprising a mixture of:~~

(1) at least one crosslinkable or polymerizable silicone oligomer or polymer which is liquid at room temperature or which is heat-meltable at a temperature of less than 100°C, and which comprises:

at least one unit of formula (FS):



wherein:

a = 0, 1 or 2,

R<sup>0</sup>, identical or different, represents an alkyl, cycloalkyl, aryl, vinyl, hydrogen or alkoxy radical,

Z, identical or different, is an organic substituent comprising at least one reactive epoxy, or alkenyl ether or oxetane or dioxolane or carbonate functional group,

and at least two silicon atoms,

(2) at least one aromatic hydrocarbon photosensitizer, having a residual light absorption of between 200 and 500 nm, said ~~wherein the~~ photosensitizer is being selected from the group consisting of:

4,4'-dimethoxybenzoin;	2-4-diethylthioxanthone
2-ethylanthraquinone;	2-methylanthraquinone;
1,8-dihydroxyanthraquinone;	dibenzoylperoxide;
2,2-dimethoxy-2-phenylacetophenone;	

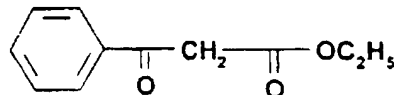
benzoin;

2-hydroxy-2-methylpropiophenone;

benzaldehyde;

4-(2-hydroxyethoxy)phenyl-(2-hydroxy-2-methylpropyl)-ketone;

benzoylacetone;



2-isopropylthioxanthone;

1-chloro-4-propoxythioxanthone; and

4-isopropylthioxanthone.

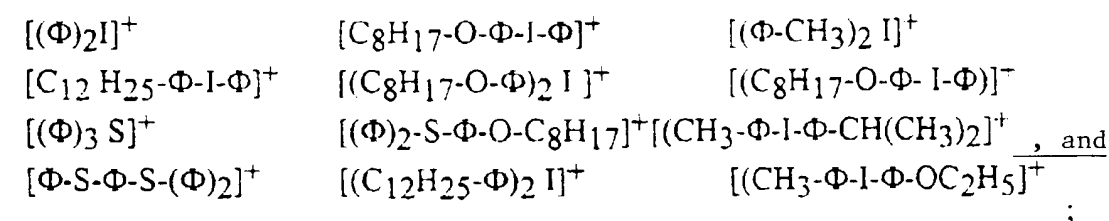
(3) at least one dental filler present in a proportion of at least 10% by weight relative to the total weight of the composition, and

(4) an effective quantity of at least one borate-type photoinitiator, having an anionic and cationic entity, wherein the anionic entity of the borate is selected from the group consisting of:

- |   |   |
|---|---|
| 1' : $[\text{B}(\text{C}_6\text{F}_5)_4]^-$             | 5' : $[\text{B}(\text{C}_6\text{H}_3(\text{CF}_3)_2)_4]^-$  |
| 2' : $[(\text{C}_6\text{F}_5)_2\text{BF}_2]^-$          | 6' : $[\text{B}(\text{C}_6\text{H}_3\text{F}_2)_4]^-$ , and |
| 3' : $[\text{B}(\text{C}_6\text{H}_4\text{CF}_3)_4]^-$  | 7' : $[\text{C}_6\text{F}_5\text{BF}_3]^-$                  |
| 4' : $[\text{B}(\text{C}_6\text{F}_4\text{OCF}_3)_4]^-$ |   |

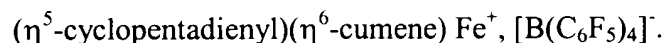
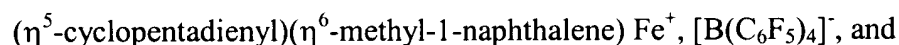
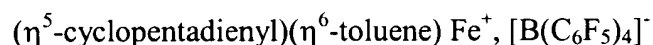
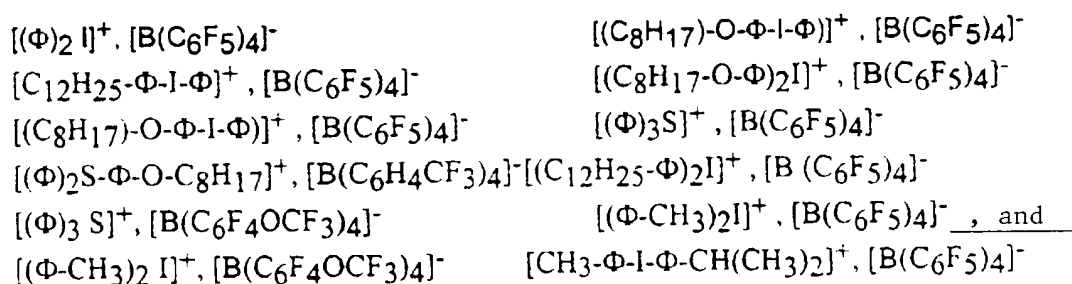
; and

wherein the cationic entity of the borate is selected from the group consisting of:



and wherein the composition has a volumetric polymerization or crosslinking shrinkage of less than 1.5% v/v.

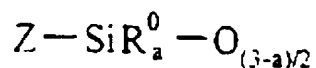
26. (Currently amended) The low shrinking polymerizable or crosslinkable dental composition as claimed in claim 25, wherein the photoinitiator is selected from the group consisting of:



27 (Currently amended) The A low shrinking polymerizable or crosslinkable dental composition comprising a mixture of:

(1) at least one crosslinkable or polymerizable silicone oligomer or polymer which is liquid at room temperature or which is heat-melttable at a temperature of less than 100°C, and which comprises:

at least one unit of formula (FS):



wherein:

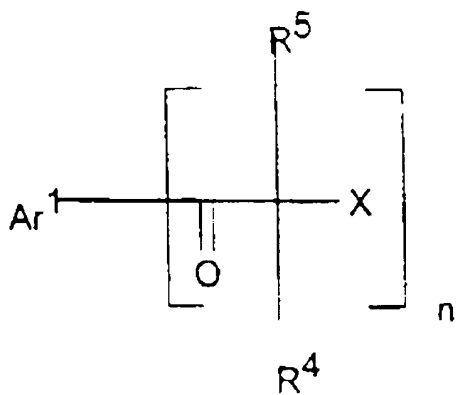
$a = 0, 1$  or  $2$ ,

$R^0$ , identical or different, represents an alkyl, cycloalkyl, aryl, vinyl, hydrogen or alkoxy radical,

$Z$ , identical or different, is an organic substituent comprising at least one reactive epoxy, or alkenyl ether or oxetane or dioxolane or carbonate functional group,

and at least two silicon atoms,

(2) at least one aromatic hydrocarbon photosensitizer, having a residual light absorption of between 200 and 500 nm, and selected from the group consisting of the following formulae (IV) to (XXII):



formula (IV)

wherein:

- when  $n = 1$ ,  $\text{Ar}^1$  represents an aryl radical containing from 6 to 18 carbon atoms, a tetrahydronaphthyl, thienyl, pyridyl or furyl radical or a phenyl radical carrying one or more substituents selected from the group consisting of F, Cl, Br, CN, OH, linear or branched  $\text{C}_1\text{-C}_{12}$  alkyls,  $-\text{CF}^3$ ,  $-\text{OR}^6$ ,  $-\text{OPhenyl}$ ,  $-\text{SR}^6$ ,  $-\text{SPhenyl}$ ,  $-\text{SO}_2\text{Phenyl}$ ,  $-\text{COOR}^6$ ,  $-\text{O}-(\text{CH}_2-\text{CH}=\text{CH}_2)$ ,  $-\text{O}(\text{CH}_2\text{H}_4-\text{O})_m-\text{H}$ , and  $-\text{O}(\text{C}_3\text{H}_6\text{O})_m-\text{H}$ ,  $m$  being between 1 and 100,

when  $n = 2$ ,  $\text{Ar}_1$  represents a  $\text{C}_6\text{-C}_{12}$  arylene radical or a phenylene-T-phenylene radical where T represents  $-\text{O}-$ ,  $-\text{S}-$ ,  $-\text{SO}_2-$  or  $-\text{CH}_2-$ ,

X represents a group  $-\text{OR}^7$  or  $-\text{OSiR}^8(\text{R}^9)_2$  or forms, with  $\text{R}^4$ , a group  $-\text{O}-\text{CH}(\text{R}^{10})-$ ,

$\text{R}_4$  represents a linear or branched  $\text{C}_1\text{-C}_8$  alkyl radical which is unsubstituted or which carries an  $-\text{OH}$ ,  $-\text{OR}^6$ ,  $\text{C}_2\text{-C}_8$  acyloxy,  $-\text{CF}^3$  or  $-\text{CN}$  group, a  $\text{C}_3$  or  $\text{C}_4$  alkenyl radical, a  $\text{C}_6$  to  $\text{C}_{18}$  aryl radical, a  $\text{C}_7$  to  $\text{C}_9$  phenylalkyl radical,

$\text{R}^5$  has one of the meanings given for  $\text{R}^4$  or represents a radical  $-\text{CH}_2\text{CH}_2\text{R}^{11}$ , or alternatively forms with  $\text{R}^4$  a  $\text{C}_2\text{-C}_8$  alkylene radical or a  $\text{C}_3\text{-C}_9$  oxa-alkylene or aza-alkylene radical,

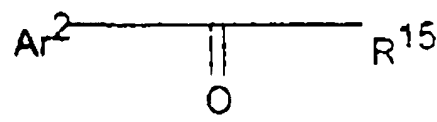
$\text{R}^6$  represents a lower alkyl radical containing from 1 to 12 carbon atoms,

$\text{R}^7$  represents a hydrogen atom, a  $\text{C}_1\text{-C}_{12}$  alkyl radical, a  $\text{C}_2\text{-C}_6$  alkyl radical carrying an  $-\text{OH}$ ,  $-\text{OR}^6$  or  $-\text{CN}$  group, a  $\text{C}_3\text{-C}_6$  alkenyl radical, a cyclohexyl or benzyl radical, a phenyl radical, optionally substituted with a chlorine atom or a linear or branched  $\text{C}_1\text{-C}_{12}$  alkyl radical, or a 2-tetrahydropyranyl radical,

$R^8$  and  $R^9$  are identical or different and each represent a  $C_1$ - $C_4$  alkyl radical or a phenyl radical,

$R^{10}$  represents a hydrogen atom, a  $C_1$ - $C_8$  alkyl radical or a phenyl radical,

$R^{11}$  represents a radical  $-\text{CONH}_2$ ,  $-\text{CONHR}^6$ ,  $-\text{CON}(\text{R}^6)_2$ ,  $-\text{P}(\text{O})(\text{OR}^6)_2$  or 2-pyridyl;

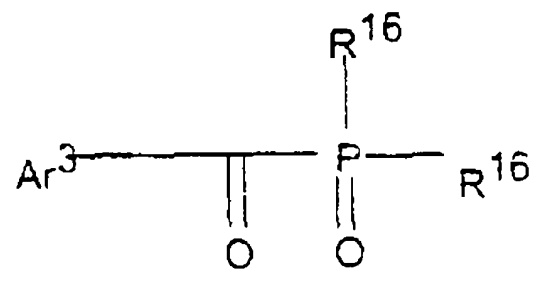


formula (V)

wherein:

$\text{Ar}^2$  has the same meaning as  $\text{Ar}^1$  of formula (IV) in the case where  $n = 1$ ,

$R^{15}$  represents a radical selected from the group consisting of a radical  $\text{Ar}^2$ , a linear or branched  $C_1$ - $C_{12}$  alkyl radical, a  $C_6$ - $C_{12}$  cycloalkyl radical, and a cycloalkyl radical forming a  $C_6$ - $C_{12}$  ring with the carbon of the ketone or a carbon of the radical  $\text{Ar}^2$ ,  $R^{15}$  being optionally substituted with one or more substituents selected from the group consisting of  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{CF}_3$ ,  $-\text{OR}^6$ ,  $-\text{SR}^6$ ,  $-\text{COOR}^6$ , the linear or branched  $C_1$ - $C_{12}$  alkyl radicals optionally carrying an  $-\text{OH}$ ,  $-\text{OR}^6$  or  $-\text{CN}$  group, and the linear or branched  $C_1$ - $C_8$  alkenyl radicals;

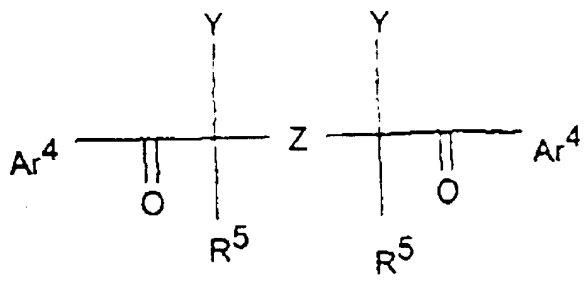


• formula (VI)

\_\_\_\_\_ wherein:

\_\_\_\_\_  $\text{Ar}^3$  has the same meaning as  $\text{Ar}^1$  of formula (IV) in the case where  $n = 1$ ,

\_\_\_\_\_  $\text{R}^{16}$ , identical or different, represents a radical selected from the group consisting of a radical  $\text{Ar}^3$ , a radical  $-(\text{C}=\text{O})-\text{Ar}^3$ , a linear or branched  $\text{C}_1\text{-C}_{12}$  alkyl radical, a  $\text{C}_6\text{-C}_{12}$  cycloalkyl radical,  $\text{R}^{16}$  being optionally substituted with one or more substituents selected from the group consisting of  $-\text{F}$ ,  $-\text{Cl}$ ,  $-\text{Br}$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{CF}_3$ ,  $-\text{OR}^6$ ,  $-\text{SR}^6$ ,  $-\text{COOR}^6$ , the linear or branched  $\text{C}_1\text{-C}_{12}$  alkyl radicals optionally carrying an  $-\text{OH}$ ,  $-\text{OR}^6$  or  $-\text{CN}$  group, and the linear or branched  $\text{C}_1\text{-C}_8$  alkenyl radicals;



\_\_\_\_\_ formula (VII)

\_\_\_\_\_ wherein:

\_\_\_\_\_ -  $\text{R}^5$ , which are identical or different, have the same meanings as in formula

(IV),

\_\_\_\_\_ -  $\text{Y}$ , which are identical or different, represent  $\text{X}$  or  $\text{R}^4$ ,

\_\_\_\_\_ -  $\text{Z}$  represents:

\_\_\_\_\_ · a direct bond,



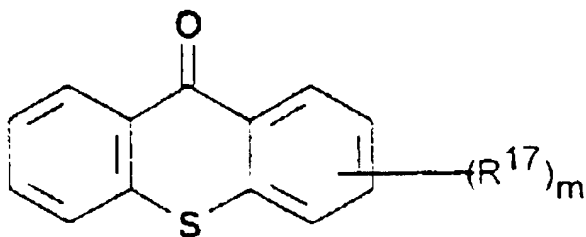
\_\_\_\_\_ a C<sub>1</sub>-C<sub>6</sub> divalent alkylene radical, or a phenylene, diphenylene or phenylene-T-phenylene radical, or alternatively forms, with the two substituents R<sup>5</sup> and the two carbon atoms carrying these substituents, a cyclopentane or cyclohexane nucleus,

\_\_\_\_\_ a divalent group -O-R<sup>12</sup>-O-, -O-SiR<sup>8</sup>R<sup>9</sup>-O-SiR<sup>8</sup>R<sup>9</sup>-O-, or -O-SiR<sup>8</sup>R<sup>9</sup>-O-,

\_\_\_\_\_ -R<sup>12</sup> represents a C<sub>2</sub>-C<sub>8</sub> alkylene, C<sub>4</sub>-C<sub>6</sub> alkenylene or xylylene radical,

\_\_\_\_\_ and Ar<sup>4</sup> has the same meaning as Ar<sup>1</sup> of formula (IV) in the case where n = 1.

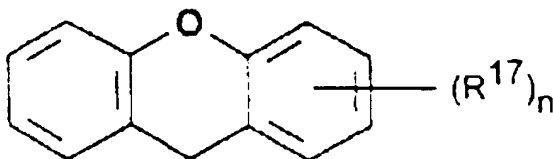
\_\_\_\_\_ family of thioxanthenes of formula (VIII):



\_\_\_\_\_ - m = 0 to 8,

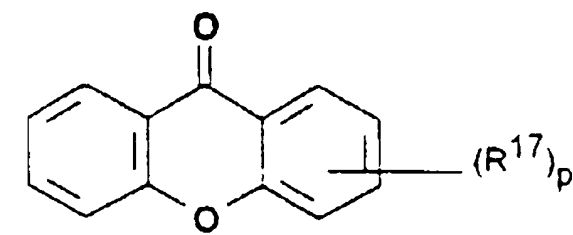
\_\_\_\_\_ - R<sup>17</sup>, identical or different substituent(s) on the aromatic group, represent a linear or branched C<sub>1</sub>-C<sub>12</sub> alkyl radical, a C<sub>6</sub>-C<sub>12</sub> cycloalkyl radical, a radical Ar<sup>1</sup>, a halogen atom, an -OH, -CN, -NO<sub>2</sub>, -COOR<sup>6</sup>, -CHO, Ophenyl, -CF<sub>3</sub>, -SR<sup>6</sup>, -Sphenyl, -SO<sub>2</sub>phenyl, Oalkenyl, or -SiR<sup>6</sup><sub>3</sub> group.

\_\_\_\_\_ family of xanthenes of formula (IX):



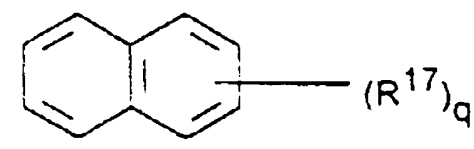
\_\_\_\_\_ n = 0 to 8

\_\_\_\_\_ family of xanthenes of formula (X):



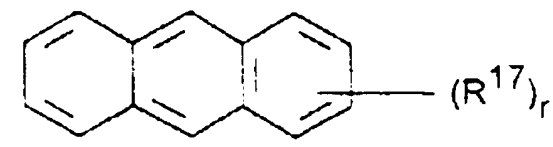
$p = 0 \text{ to } 8$

family of the naphthalene of formula (XI):



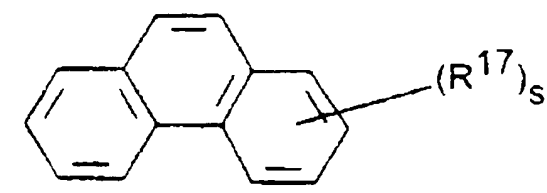
$q = 0 \text{ to } 8$

family of the anthracene of formula (XII):



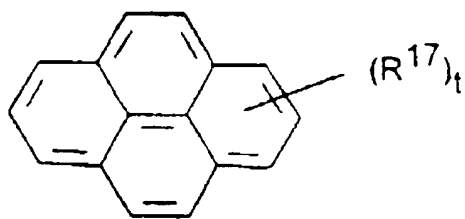
$r = 0 \text{ to } 10$

family of the phenanthrene of formula (XIII):



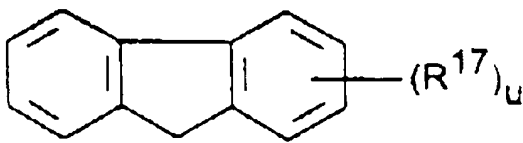
$s = 0 \text{ to } 10$

family of the pyrene of formula (XIV):



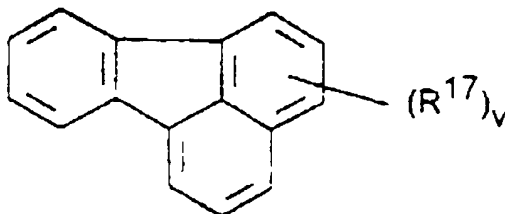
$t = 0$  to  $10$

family of the fluorene of formula (XV):



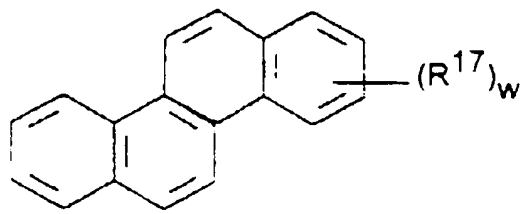
$u = 0$  to  $9$

family of the fluoranthene of formula (XVI):



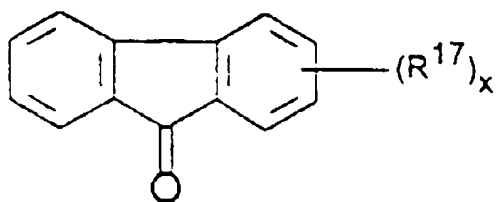
$v = 0$  to  $10$

family of the chrysene of formula (XVII):

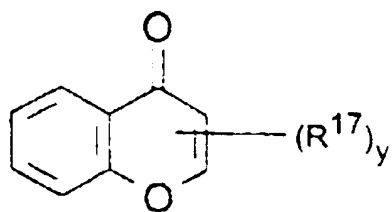


$w = 0$  to  $12$

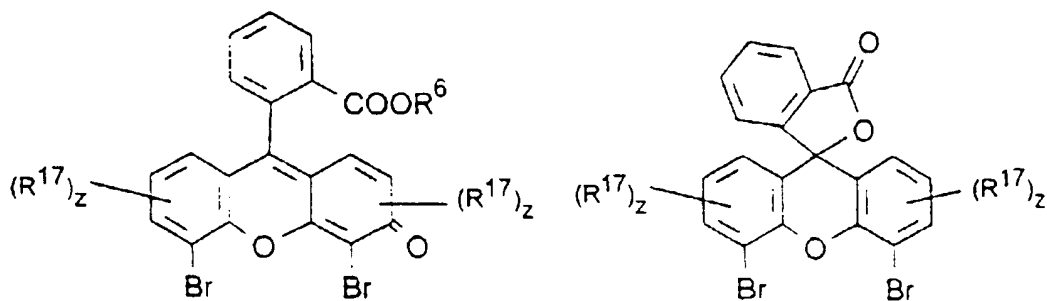
family of the fluorene of formula (XVIII):



family of the chromone of formula (XIX):

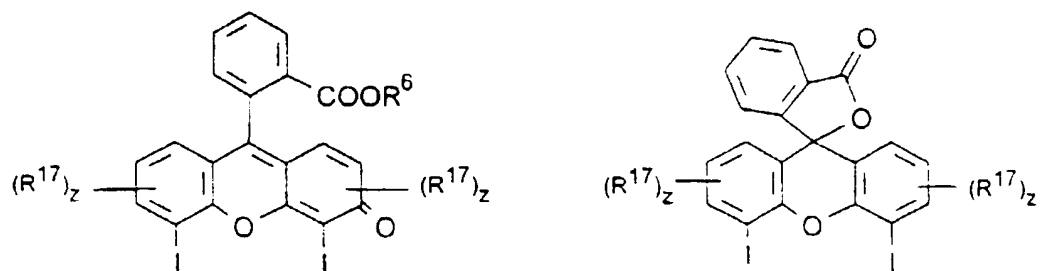


family of the eosin of formula (XX):



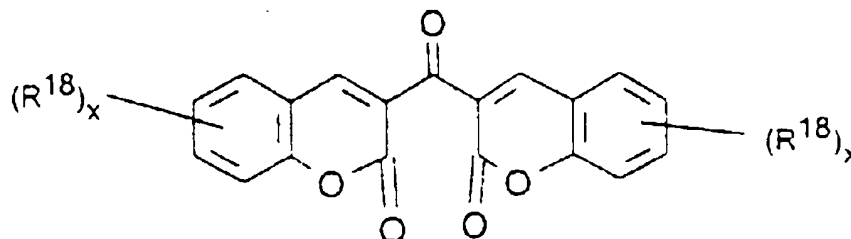
with  $z = 0$  to 6

family of the erythrosin of formula (XXI):



with  $z = 0$  to  $5$  with  $z = 0$  to  $6$ ; and

family of the biscoumarins of formula (XXII):



$R^{18}$ , identical or different, has the same meaning as  $R^{17}$  or represents a group –  $NR^6_2$ , or 3,3'-carbonylbis(7-methoxycoumarin).

(3) at least one dental filler present in a proportion of at least 10% by weight relative to the total weight of the composition, and

(4) an effective quantity of at least one borate-type photoinitiator, having an anionic and cationic entity, wherein the anionic entity of the borate is selected from the group consisting of:

- |                               |                                 |
|-------------------------------|---------------------------------|
| 1' : $[B(C_6F_5)_4]^-$        | 5' : $[B(C_6H_3(CF_3)_2)_4]^-$  |
| 2' : $[(C_6F_5)_2BF_2]^-$     | 6' : $[B(C_6H_3F_2)_4]^-$ , and |
| 3' : $[B(C_6H_4CF_3)_4]^-$    | 7' : $[C_6F_5BF_3]^-$           |
| 4' : $[B(C_6F_4OCF_3)_4]^-$ . |                                 |

; and

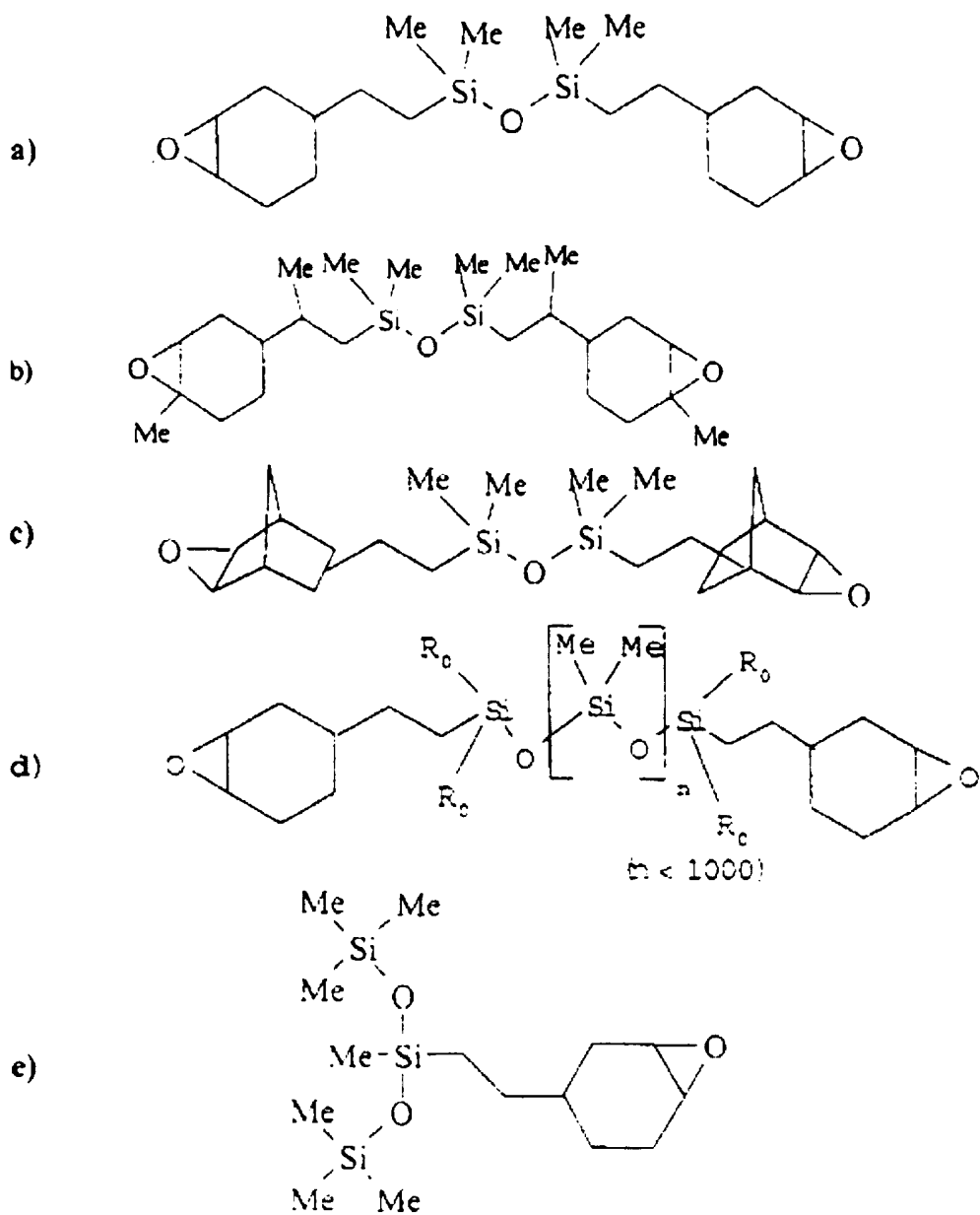
wherein the cationic entity of the borate is selected from the group consisting of:

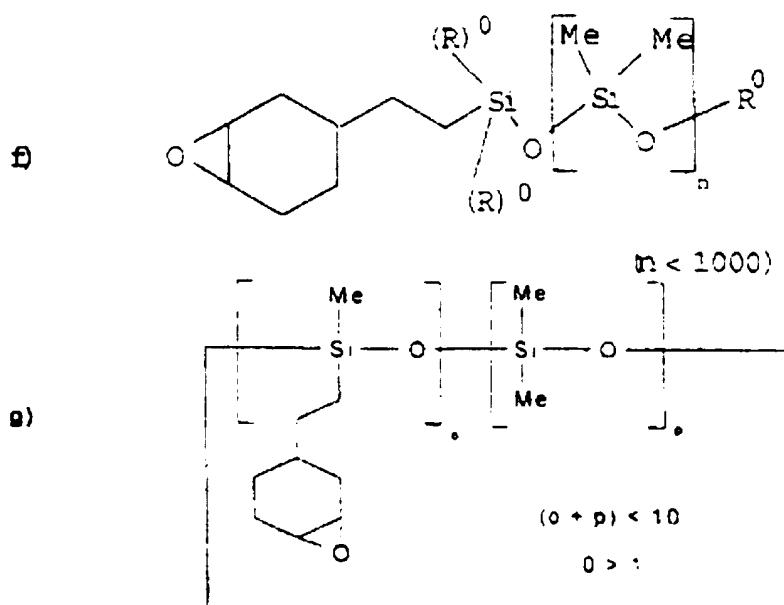
- |                                |  |                                  |
|--------------------------------|--|----------------------------------|
| $[(\Phi)_2I]^+$                | $[C_8H_{17}-O-\Phi-I-\Phi]^+$  | $[(\Phi-CH_3)_2I]^+$             |
| $[C_{12}H_{25}-\Phi-I-\Phi]^+$ | $[(C_8H_{17}-O-\Phi)_2I]^+$  | $[(C_8H_{17}-O-\Phi-I-\Phi)]^+$  |
| $[(\Phi)_3S]^+$                | $[(\Phi)_2-S-\Phi-O-C_8H_{17}]^+[(CH_3-\Phi-I-\Phi-CH(CH_3)_2)]^+$ , and |                                  |
| $[\Phi-S-\Phi-S-(\Phi)_2]^+$   | $[(C_{12}H_{25}-\Phi)_2I]^+$   | $[(CH_3-\Phi-I-\Phi-OC_2H_5)]^+$ |

;

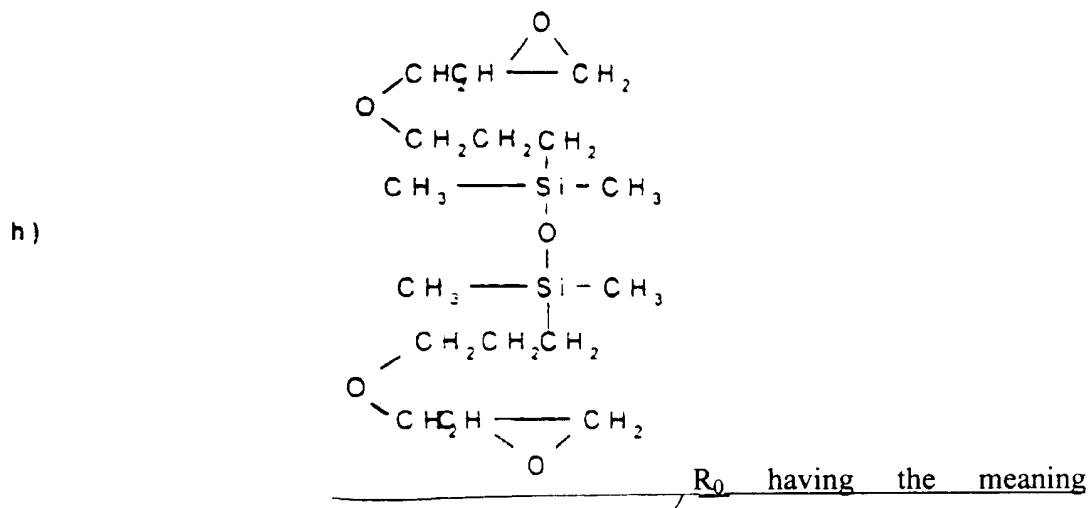
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Serial number 09/806,629  
AMENDMENT

wherein the composition has a volumetric polymerization or crosslinking shrinkage of less than 1.5% v/v as claimed in claim 20, wherein the silicone oligomer or polymer (1) consists of at least one silicone having the following average formula:





or



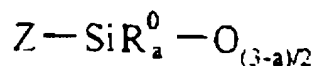
mentioned above.

28. (Currently amended) A process for the preparation of a dental prosthesis or of a dental restoration comprising the step of using the low shrinking polymerizable or crosslinkable dental composition as defined in claim 20 comprising a mixture of:



(1) at least one crosslinkable or polymerizable silicone oligomer or polymer which is liquid at room temperature or which is heat-melttable at a temperature of less than 100°C, and which comprises:

at least one unit of formula (FS):



wherein:

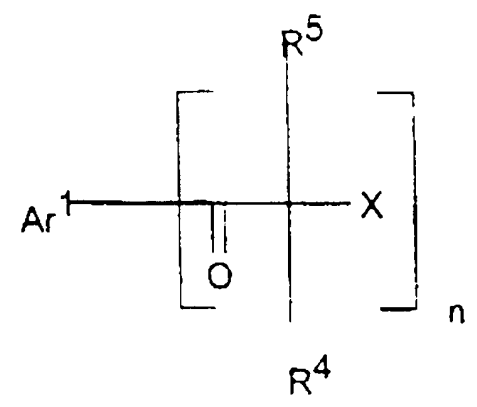
a = 0, 1 or 2,

R<sup>0</sup>, identical or different, represents an alkyl, cycloalkyl, aryl, vinyl, hydrogen or alkoxy radical,

Z, identical or different, is an organic substituent comprising at least one reactive epoxy, or alkenyl ether or oxetane or dioxolane or carbonate functional group,

and at least two silicon atoms,

(2) at least one aromatic hydrocarbon photosensitizer, having a residual light absorption of between 200 and 500 nm, and selected from the group consisting of the following formulae (IV) to (XXII):



formula (IV)

wherein:

- when  $n = 1$ ,  $Ar^1$  represents an aryl radical containing from 6 to 18 carbon atoms, a tetrahydronaphthyl, thienyl, pyridyl or furyl radical or a phenyl radical carrying one or more substituents selected from the group consisting of F, Cl, Br, CN, OH, linear or branched  $C_1$ - $C_{12}$  alkyls,  $-CF^3$ ,  $-OR^6$ ,  $-OPhenyl$ ,  $-SR^6$ ,  $-SPhenyl$ ,  $-SO_2Phenyl$ ,  $-COOR^6$ ,  $-O-(CH_2-CH=CH_2)$ ,  $-O(CH_2H_4-O)_m-H$ , and  $-O(C_3H_6O)_m-H$ ,  $m$  being between 1 and 100,

when  $n = 2$ ,  $Ar_1$  represents a  $C_6$ - $C_{12}$  arylene radical or a phenylene-T-phenylene radical where T represents  $-O-$ ,  $-S-$ ,  $-SO_2-$  or  $-CH_2-$ ,

X represents a group  $-OR^7$  or  $-OSiR^8(R^9)_2$  or forms, with  $R^4$ , a group  $-O-CH(R^{10})-$ ,

$R_4$  represents a linear or branched  $C_1$ - $C_8$  alkyl radical which is unsubstituted or which carries an  $-OH$ ,  $-OR^6$ ,  $C_2$ - $C_8$  acyloxy,  $-CF^3$  or  $-CN$  group, a  $C_3$  or  $C_4$  alkenyl radical, a  $C_6$  to  $C_{18}$  aryl radical, a  $C_7$  to  $C_9$  phenylalkyl radical,

$R^5$  has one of the meanings given for  $R^4$  or represents a radical  $-CH_2CH_2R^{11}$ , or alternatively forms with  $R^4$  a  $C_2-C_8$  alkylene radical or a  $C_3-C_9$  oxa-alkylene or aza-alkylene radical,

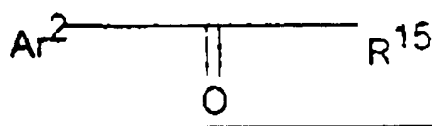
$R^6$  represents a lower alkyl radical containing from 1 to 12 carbon atoms,

$R^7$  represents a hydrogen atom, a  $C_1-C_{12}$  alkyl radical, a  $C_2-C_6$  alkyl radical carrying an  $-OH$ ,  $-OR^6$  or  $-CN$  group, a  $C_3-C_6$  alkenyl radical, a cyclohexyl or benzyl radical, a phenyl radical, optionally substituted with a chlorine atom or a linear or branched  $C_1-C_{12}$  alkyl radical, or a 2-tetrahydropyranyl radical,

$R^8$  and  $R^9$  are identical or different and each represent a  $C_1-C_4$  alkyl radical or a phenyl radical,

$R^{10}$  represents a hydrogen atom, a  $C_1-C_8$  alkyl radical or a phenyl radical,

$R^{11}$  represents a radical  $-CONH_2$ ,  $-CONHR^6$ ,  $-CON(R^6)_2$ ,  $-P(O)(OR^6)_2$  or 2-pyridyl;



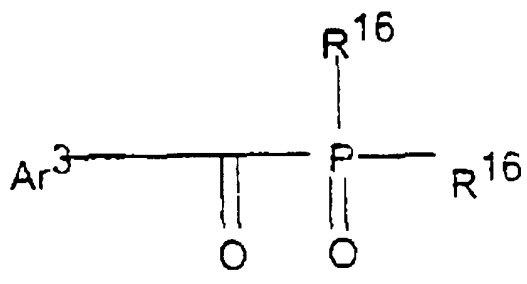
formula (V)

wherein:

$Ar^2$  has the same meaning as  $Ar^1$  of formula (IV) in the case where  $n = 1$ ,

$R^{15}$  represents a radical selected from the group consisting of a radical  $Ar^2$ , a linear or branched  $C_1-C_{12}$  alkyl radical, a  $C_6-C_{12}$  cycloalkyl radical, and a cycloalkyl radical forming a  $C_6-C_{12}$  ring with the carbon of the ketone or a carbon of the radical  $Ar^2$ ,  $R^{15}$  being optionally substituted with one or more substituents selected from the

group consisting of -F, -Cl, -Br, -CN, -OH, -CF<sub>3</sub>, -OR<sup>6</sup>, -SR<sup>6</sup>, -COOR<sup>6</sup>, the linear or branched C<sub>1</sub>-C<sub>12</sub> alkyl radicals optionally carrying an -OH, -OR<sup>6</sup> or -CN group, and the linear or branched C<sub>1</sub>-C<sub>8</sub> alkenyl radicals;

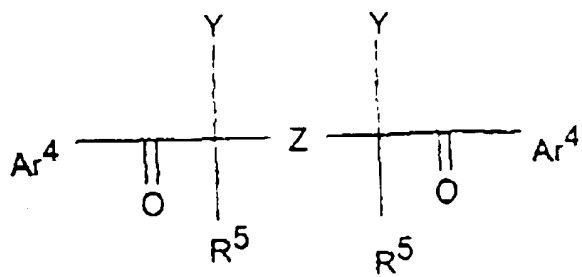


• formula (VI)

wherein:

Ar<sup>3</sup> has the same meaning as Ar<sup>1</sup> of formula (IV) in the case where n = 1,

R<sup>16</sup>, identical or different, represents a radical selected from the group consisting of a radical Ar<sup>3</sup>, a radical -(C=O)-Ar<sup>3</sup>, a linear or branched C<sub>1</sub>-C<sub>12</sub> alkyl radical, a C<sub>6</sub>-C<sub>12</sub> cycloalkyl radical, R<sup>16</sup> being optionally substituted with one or more substituents selected from the group consisting of -F, -Cl, -Br, -CN, -OH, -CF<sub>3</sub>, -OR<sup>6</sup>, -SR<sup>6</sup>, -COOR<sup>6</sup>, the linear or branched C<sub>1</sub>-C<sub>12</sub> alkyl radicals optionally carrying an -OH, -OR<sup>6</sup> or -CN group, and the linear or branched C<sub>1</sub>-C<sub>8</sub> alkenyl radicals;



formula (VII)

\_\_\_\_\_ wherein:

\_\_\_\_\_ -  $R^5$ , which are identical or different, have the same meanings as in formula (IV),

\_\_\_\_\_ -  $Y$ , which are identical or different, represent  $X$  or  $R^4$ ,

\_\_\_\_\_ -  $Z$  represents:

\_\_\_\_\_ · a direct bond,

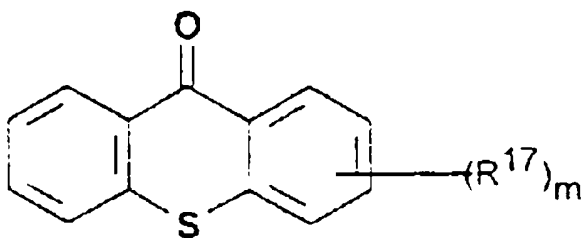
\_\_\_\_\_ · a  $C_1$ - $C_6$  divalent alkylene radical, or a phenylene, diphenylene or phenylene-T-phenylene radical, or alternatively forms, with the two substituents  $R^5$  and the two carbon atoms carrying these substituents, a cyclopentane or cyclohexane nucleus,

\_\_\_\_\_ · a divalent group  $-O-R^{12}-O-$ ,  $-O-SiR^8R^9-O-SiR^8R^9-O-$ , or  $-O-SiR^8R^9-O-$ ,

\_\_\_\_\_ -  $R^{12}$  represents a  $C_2$ - $C_8$  alkylene,  $C_4$ - $C_6$  alkenylene or xylylene radical,

\_\_\_\_\_ and  $Ar^4$  has the same meaning as  $Ar^1$  of formula (IV) in the case where  $n = 1$ .

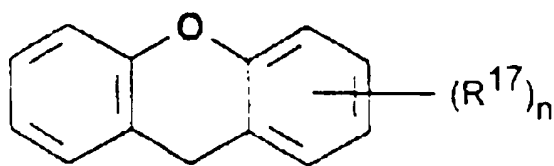
\_\_\_\_\_ family of thioxanthenes of formula (VIII):



\_\_\_\_\_ -  $m = 0$  to  $8$ ,

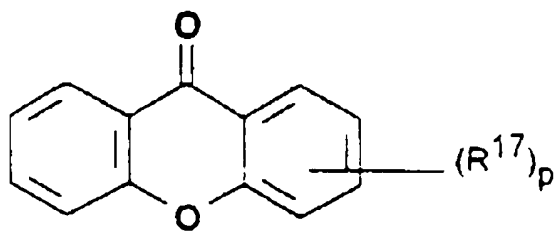
\_\_\_\_\_ -  $R^{17}$ , identical or different substituent(s) on the aromatic group, represent a linear or branched  $C_1$ - $C_{12}$  alkyl radical, a  $C_6$ - $C_{12}$  cycloalkyl radical, a radical  $Ar^1$ , a halogen atom, an  $-OH$ ,  $-CN$ ,  $-NO_2$ ,  $-COOR^6$ ,  $-CHO$ ,  $Ophenyl$ ,  $-CF_3$ ,  $-SR^6$ ,  $-Sphenyl$ ,  $-SO_2phenyl$ ,  $Oalkenyl$ , or  $-SiR^6_3$  group.

\_\_\_\_\_ family of xanthenes of formula (IX):



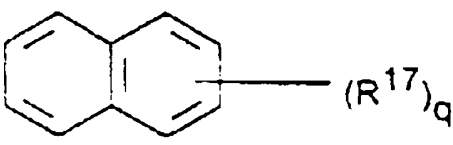
$n = 0 \text{ to } 8$

family of xanthenes of formula (X):



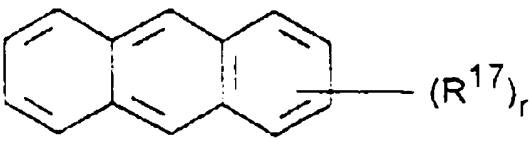
$p = 0 \text{ to } 8$

family of the naphthalene of formula (XI):



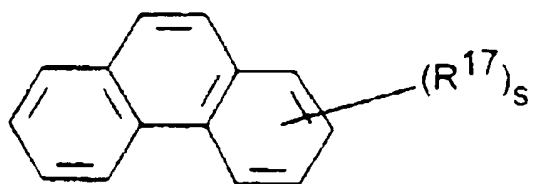
$q = 0 \text{ to } 8$

family of the anthracene of formula (XII):



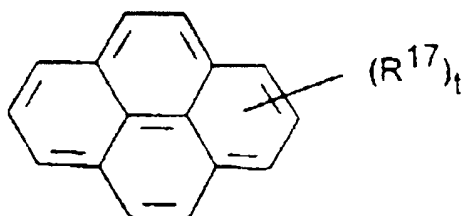
$r = 0 \text{ to } 10$

family of the phenanthrene of formula (XIII):



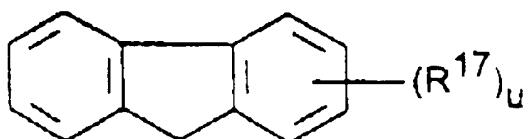
$s = 0$  to  $10$

family of the pyrene of formula (XIV):



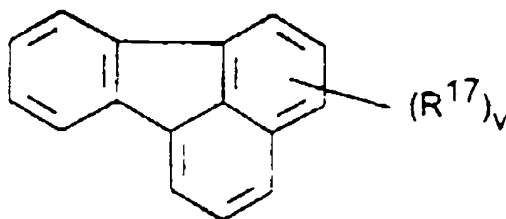
$t = 0$  to  $10$

family of the fluorene of formula (XV):



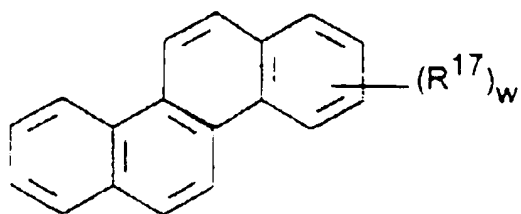
$u = 0$  to  $9$

family of the fluoranthene of formula (XVI):



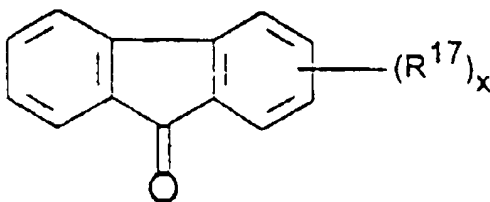
$v = 0$  to  $10$

family of the chrysene of formula (XVII):



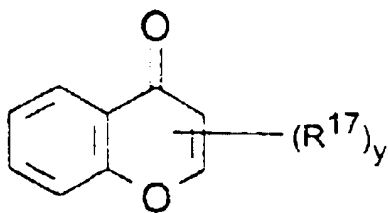
$w = 0 \text{ to } 12$

family of the fluorene of formula (XVIII):



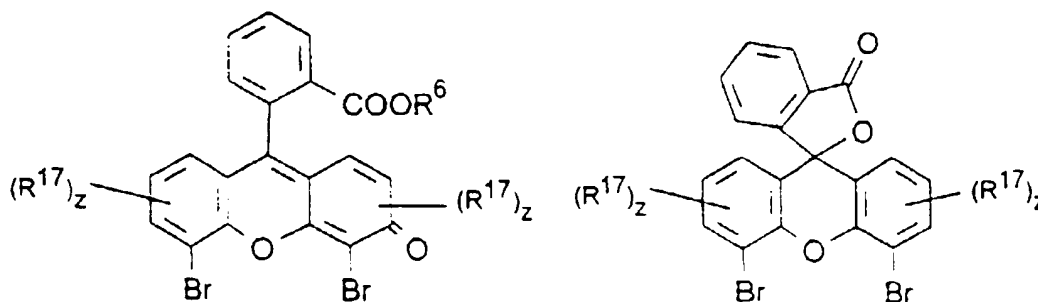
with  $x = 0 \text{ to } 8$ , for example 2,7-dinitro-9-fluorenone,

family of the chromone of formula (XIX):



with  $y = 0 \text{ to } 6$

family of the eosin of formula (XX):

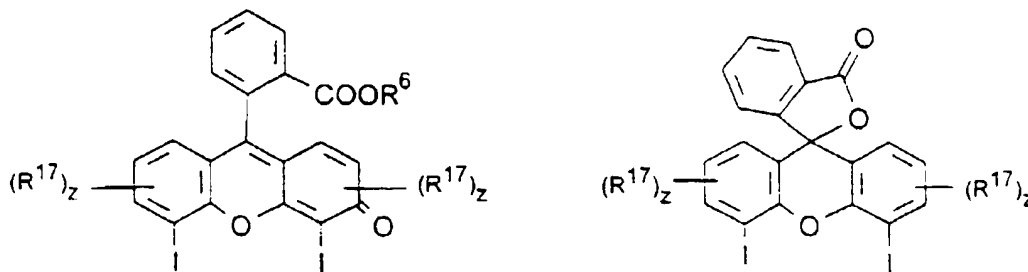


with  $z = 0 \text{ to } 5$

with  $z = 0 \text{ to } 6$

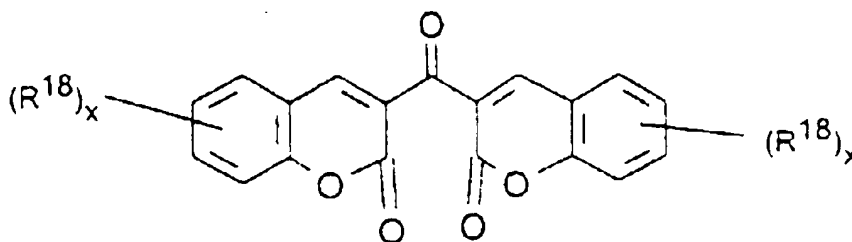


family of the erythrosin of formula (XXI):



with z = 0 to 5      with z = 0 to 6; and

family of the biscoumarins of formula (XXII):



$R^{18}$ , identical or different, has the same meaning as  $R^{17}$  or represents a group –  $NR^6_2$ , or 3,3'-carbonylbis(7-methoxycoumarin).

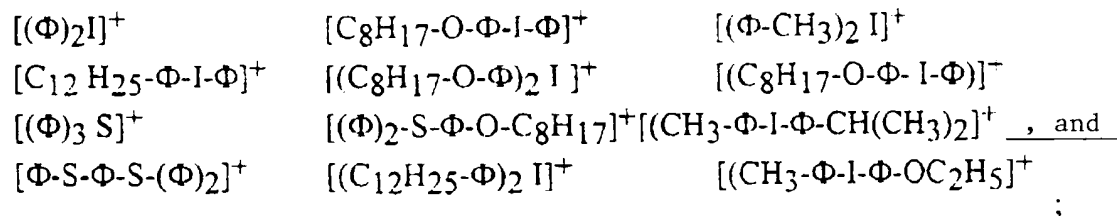
(3) at least one dental filler present in a proportion of at least 10% by weight relative to the total weight of the composition, and

(4) an effective quantity of at least one borate-type photoinitiator, having an anionic and cationic entity, wherein the anionic entity of the borate is selected from the group consisting of:

- |                             |                                 |
|-----------------------------|---------------------------------|
| 1' : $[B(C_6F_5)_4]^-$      | 5' : $[B(C_6H_3(CF_3)_2)_4]^-$  |
| 2' : $[(C_6F_5)_2BF_2]^-$   | 6' : $[B(C_6H_3F_2)_4]^-$ , and |
| 3' : $[B(C_6H_4CF_3)_4]^-$  | 7' : $[C_6F_5BF_3]^-$           |
| 4' : $[B(C_6F_4OCF_3)_4]^-$ |                                 |

; and

wherein the cationic entity of the borate is selected from the group consisting of:



wherein the composition has a volumetric polymerization or crosslinking shrinkage of

less than 1.5% v/v.